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PRIME HOOK NATIONAL WILDLIFE REFUGE
Milton, Delaware

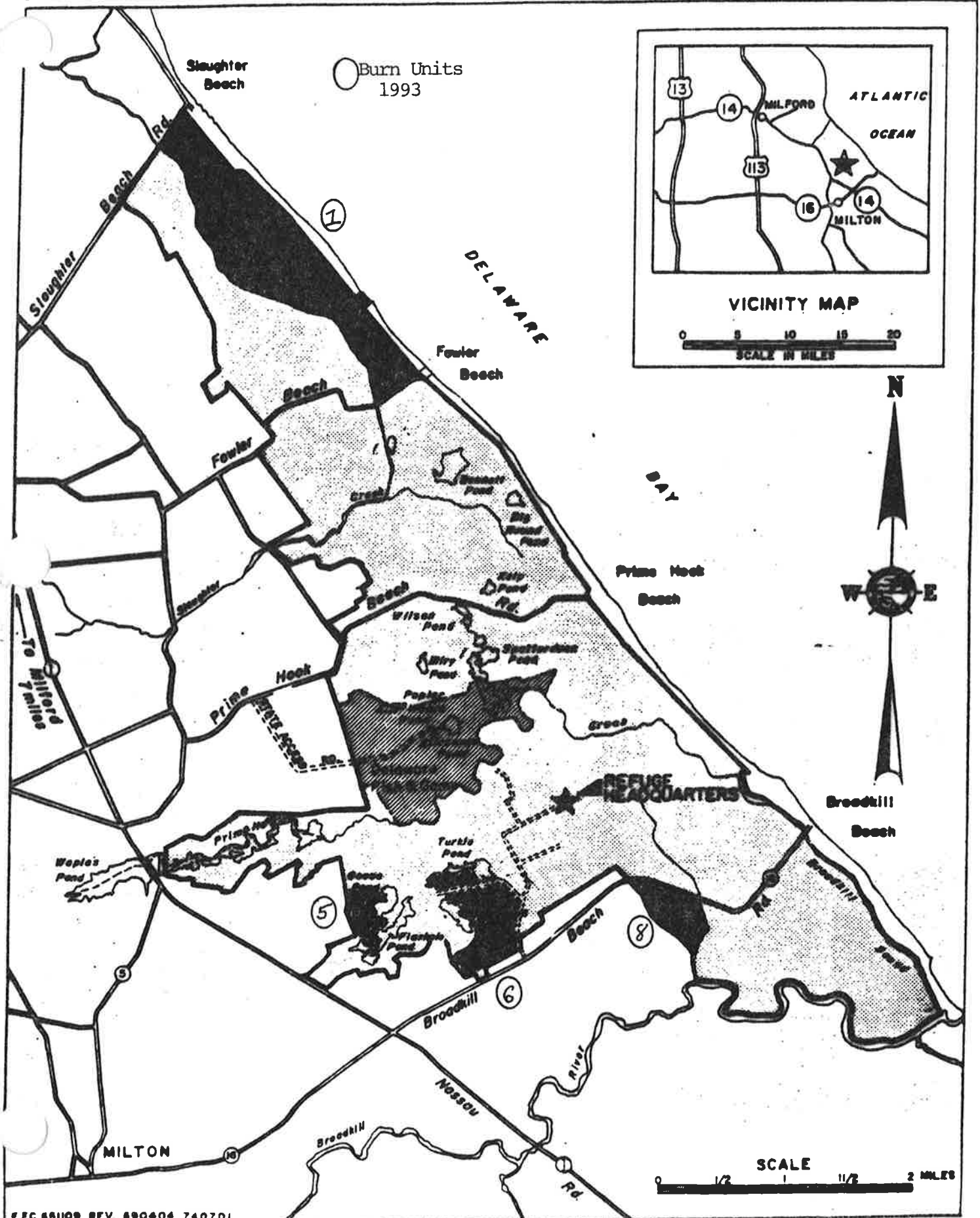
FY-93 ANNUAL PRESCRIBED BURNING PROGRAM
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PRIME HOOK NATIONAL WILDLIFE REFUGE SUSSEX COUNTY, DELAWARE

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



PRIME HOOK NATIONAL WILDLIFE REFUGE
FY 93 - ANNUAL PRESCRIBED BURNING PROGRAM

A. Area Identification

1. Map A depicts the areas proposed for prescribed burning in FY 93. No prescribed burning has been accomplished on Prime Hook National Wildlife Refuge since 1988 due to staff shortages.
2. Following is a description of the areas proposed for burning in FY 93. Refuge staff and personnel from the Delaware Department of Agriculture, Forestry Section will conduct the burns.

Area 1 - Approximately 625 acres of Phragmites, salt marsh grasses, switchgrass and brush (high tide bush and myrtle). The unit is bounded on the north by County Route 224, the east by the refuge boundary and sand dunes, the south by County Route 199, and the west by Slaughter Canal.

Purpose - fuel removal.

Area 5 - Approximately 80 acres of brush, switchgrass, poison ivy, and forest litter. The unit is bounded on the north, east, and south by wetlands and the west by upland croplands along the refuge boundary.

Purpose - habitat improvement for Delmarva Fox Squirrel.

Area 6 - Approximately 60 acres of brush and undergrowth, grasses and forest litter, both hardwood and pine. The area is bounded on the northwest by wetlands and croplands, the south by a 50 foot grassed firebreak and the east by a firebreak and wetlands.

Purpose - a) fuel reduction and b) habitat improvement for Delmarva Fox Squirrel.

Area 8 - Approximately seventy-five acres of marsh grasses, brush and switchgrass. The area is bounded on the north by State Route 16, the east by Petersfield Ditch and the south and west by tidal ditches and the refuge boundary.

Purpose - fuel reduction

Table 1 - Units and Acreages to be Burned in FY 93

<u>Unit</u>	<u>Tidal Marsh</u>	<u>Upland Grasses, Forest Understory</u>	<u>Total</u>
1	531	94	625
5		80	80
6		60	60
8	<u>37</u>	<u>38</u>	<u>75</u>
TOTAL	568	272	840

B. Burning Plan

Area 1 is burned, when possible, every other year to reduce the fuel load in an area adjacent to a developed area. Areas 5 and 6 are burned as needed to maintain a clear forest understory for the Delmarva Fox Squirrel and to reduce the fuel load adjacent to the Pine Grove Trail. Area 8 is burned as needed to reduce the fuel load.

All areas to be burned in FY 93, have clearly defined barriers to prevent escape of the fire. No prescribed fires will be conducted during periods of significant wildfire occurrence in the nearby area to assure that emergency suppression personnel will be available if the need arises. Only one prescribed fire will occur at any one time so as not to tax staff or State Forestry resources should an emergency occur. Fires will be conducted to achieve burn-out or full containment by the end of the working day. Unit I will likely burn into the exterior of the unit (contained by salt marsh and Slaughter Canal) for up to 36 hours. Fires will not be conducted when high winds are present. In Unit I, burning will occur only with an easterly wind. Prescribed burn areas will be closed to the public for the duration of the burn. News releases will be issued during the prescribed fire season to alert the public to our plans.

1. Preparation of the Burn**a. Unit I**

No firebreaks will be necessary. Personnel from the State Department of Natural Resources and Environmental Control, Division of Fish and Wildlife, Mosquito Control Section, will be notified in advance of our plans to ensure that open marsh water management equipment is removed or moved to a secure location.

b. Unit 5

No firebreaks will be necessary as the burn will be contained by agricultural fields and wetlands.

c. Unit 6

The firebreaks along our southern boundary should be moved prior to burning and any dead snags felled. It may be desirable to use a fire plow to further improve the firebreak.

d. Area 8

The firebreak along the Graves Farm (western boundary) should be mowed prior to burning. A fire plow may also be desirable to improve the firebreak prior to burning.

2. Ignition

a. Ignition Plan for Fire Units

Unit 1

Winds should be from the northeast, east or southeast 10-15 MPH. Dependent upon the wind direction, a burn-out will be first conducted along County Route 224 (north-east wind) or County Route 199 (south-east wind). The marsh should be sufficiently dry to carry the fire across the Phragmites into the salt grasses. The main goal is to remove standing, dead Phragmites canes which present a severe fire threat. The main fire will be ignited with torches along the eastern boundary of the refuge. Burning time will be March through mid-April. Flanking fires will be used along roadways with the main fire being a head fire.

Unit 5

Wind direction will not be critical; however, wind speed should not exceed 10-12 MPH. A drip torch will be used to ignite the fire along the western boundary of the unit. Best results will be achieved with a backing fire.

Prescribed burn will be attempted first on December 1, 1993 to December 15, 1993 weather permitting. Unit 6 will be strip-burned to reduce likelihood of fire carrying to adjacent standing fuels to avoid crown fires.

Burn will be assisted by Tim Kaden and other personnel from the State Forestry Department (all red carded).

Unit 6

Due to adjacent houses, wind direction should be south-east to south-west to control smoke. Dense forest litter poses a severe fuel load. The area near the

Area 8

Winds should not exceed 10 MPH with a north-west wind to carry smoke away from State Route 16. Ignition will be along the prepared firebreak to reduce the threat of the fire escaping. This will also permit the fire to back across the unit. The best result will be to have a flanking and head fire, as the purpose is to remove fuels.

b. Equipment and Timing of Ignition Plan

No burning will occur when the State Fire Marshall has declared a ban on outdoor burning. State forestry personnel will be required for all burns, thus timing is dependent upon their availability.

The following is a summary of equipment and personnel needed to conduct each burn. Burn units are listed in priority order, dependent upon wind and habitat conditions.

<u>Unit</u>	<u>Cost</u>	<u>Manpower and Equipment</u>
6	500	3-5 firefighters, 2 torches 2 mobile pumpers, hand tools
5	300	2-3 firefighters, 1 torch 2 mobile pumpers, hand tools
1	800	10-15 firefighters, 2 torches, 3 mobile pumpers, 1 tanker 1-2 fire pumps
8	400	5-7 firefighters, 2 torches 2 mobile pumpers, hand tools

3. Holding or Control

Staff and equipment will be placed on the edge of each burn to secure control. One staff member will stay near the burned over areas to watch for spotfiring or flame-ups outside the burning area. Staff and equipment will be stationed along the periphery where there is a likelihood of fire jumping or spotfiring across the control line. This will be most critical in Area 8 and Area 6.

In the event the fire escapes the unit being burned, the firefighters will attempt to put the fire out or if necessary request emergency help.

4. Mop-Up

Mop-up in Unit 1 will consist of extinguishing burning materials within 100 feet of the two County Routes using the mobile pumper or backpack bladder bags. In Units 5, 6, and 8 mop-up will consist of removing burning snags and extinguishing burning embers using the mobile pumps or backpack bladder bags. In Unit I, the fire is expected to burn in the interior portion of the unit for up to 36 hours. During this time the fire will be monitored continuously.

C. Desired Results of Prescribed Burning

Unit 1

The eastern boundary is dominated with Phragmites. The dead canes create a severe fire threat to the community of Slaughter Beach. The goal of the prescribed burn is to remove these fuels.

Unit 5

Removal of the forest understory will benefit Delmarva Fox Squirrels.

Unit 6

Removal of the forest understory will benefit Delmarva Fox Squirrels. Near the Pine Grove Trail removal of excessive fuels will lessen the likeliness of resource damage from wildfires. The fuel load is severe.

Unit 8

Removal of accumulated fuels will lessen the threat of wildfire in this area.

D. Evaluation

Burns will be evaluated utilizing the following methods:

1. A post-burn walking survey of the area will be conducted to estimate the percent burn coverage and the effects, if any, the burn had on wildlife.
2. Aerial photos of larger burned areas will be taken in conjunction with waterfowl population survey.
3. Photo points may be established and changes in vegetative types will be noted.
4. An analysis of the vegetational changes will be conducted as a result of the treatment by fire. A standardized

sampling technique or gross observations of plant species will be the techniques used depending on the burn unit and the need for preciseness of the data.

Results of the evaluation will appear in the following year's annual burn program as an appendix to the text.